UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
HOANG, PHUONG N

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14 - 17* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *14 - 17* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____ .

DETAILED ACTION

1.   Claims 14 – 17 are pending for examination. This office action is in response to

amendment filed 12/16/2008.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claim 14 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

      a.   The following terms lack proper antecedent basis:

            i.   The interface, the virtual machine interface - claim 14;

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

5.   **Claims 14 – 17 are directed to non-statutory subject matter.**

      As to claim 14, the claim recites "an architecture" embodied in at least one

"tangible computer readable medium" in claim 14 is non-statutory. Applicant's

specification does not disclose "tangible computer readable medium"; therefore, it is

unclear what the claimed "tangible computer readable medium" is intended to cover. In

addition, applicant's specification (paragraph 0036), the storage medium is not limited to

CD-ROM, floppy disk, tape, flash memory, system memory, and hard drive and includes

carrier waves. Examiner interprets the "tangible computer readable medium" as

including the disclosed carrier wave storage medium in the specification; thus, the claim

is not limited to statutory subject matter.

6.   Claim 15 recites "a runtime environment" embodied in at least one "tangible

computer readable medium". See discussion for claim 14 above.

7.   Claim 16 recites "a virtual machine implementation" embodied in at least one

"tangible computer readable medium". See discussion for claim 14 above.

8.   Claim 17 recites "a runtime environment" embodied in at least one "tangible

computer readable medium". See discussion for claim 14 above.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

10.   **Claims 14 – 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Folliot, "A Dynamically Configurable, Multi-Language Execution Platform" pages 175 – 181, in view of Marchesseault, US patent no. 6,343,308.**

11.   **As to claim 14**, Folliot teaches a modular runtime environment architecture comprising:

a single virtual machine implementation (Virtual virtual machine (VVM), section 1 page 176 paragraph 4 – section 2) providing virtual machine functionality (loading/unloading, section 1 page 176 – section 2);

a plurality of support libraries, wherein a support library includes library functions (VMlets, section 2 pages 177 - 178);

wherein the virtual machine interface supports communication between a second support library, capable of replacing the first support library, and virtual machine implementation without modification of the virtual machine interface or the virtual machine implementation (unload and load the VMlets, section 1 page 176 - section 2).

Folliot does not explicitly teach the step of a bi-directional virtual machine interface for communication between a first support library and the single virtual machine implementation, the interface defining virtual machine implementation-dependent operations performed by the virtual machine implementation.

Marchesseault teaches a bi-directional virtual machine interface for communication between a first support library and the single virtual machine implementation, the interface defining virtual machine implementation-dependent

operations performed by the virtual machine implementation (Java class called by an applet… JVM load/execute the applet, and loader tells the JVM … each called class, col. 10 lines 32 – 42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Folliot and Marchesseault because the loader would verify all necessary classes for the JVM to execute a Java program without causing errors (Marchesseault; col. 2 lines 35 – 45).

12.   **As to claim 15**, Folliot teaches a runtime environment in which a virtual machine implementation uses a first support library implementation wherein the first support library implementation can be replaced by a second support library implementation without modifying the virtual mechanism implementation (unload and load the VMlets, section 1 page 176 - section 2).

Folliot does not explicitly teach the step of and wherein a bi-directional virtual machine interface enables communication between the virtual machine implementation and the first support library and communication between the virtual machine implementation and the second support library.

Marchesseault teaches a bi-directional virtual machine interface enables communication between the virtual machine implementation and the first support library and communication between the virtual machine implementation and the second support library (Java class called by an applet… JVM load/execute the applet, and loader tells the JVM … each called class, col. 10 lines 32 – 42).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of Folliot and Marchesseault because the

loader would verify all necessary classes for the JVM to execute a Java program

without causing errors (Marchesseault; col. 2 lines 35 – 45).

13.   **As to claim 16**, Folliot teaches a virtual machine implementation suitable for use

in a runtime environment, the virtual machine implementation (VVM, section 1 page 176

– section 2) having a virtual machine interface defining a number of operations

performed by the virtual machine implementation, library functions (VMlets, section 2

pages 177 - 178); and

whereby the virtual machine interface defines operations (VMlets, section 2

pages 177 - 178) that are virtual machine implementation-dependent, the virtual

machine implementation comprising a set of implementation functions for executing

operations defined by the virtual machine interface, and

wherein the virtual machine interface with a first support library and the virtual

machine implementation, and the virtual machine implementation is suitable for use in

conjunction with a plurality of support libraries that are arranged to conform to the virtual

machine interface, whereby the first support library can be replaced by a second

support library without altering the virtual machine interface or virtual machine

implementation (unload and load the VMlets, section 1 page 176 paragraph 4 - section

2).

Folliot does not explicitly teach the step of the library functions call virtual

machine implementation dependent functions that perform operations that are

dependent on the particular virtual machine implementation used to perform the

operations.

Marchesseault teaches the library functions call virtual machine implementation

dependent functions that perform operations that are dependent on the particular virtual

machine implementation used to perform the operations (Java class called by an

applet... JVM load/execute the applet, and loader tells the JVM ... each called class,

col. 10 lines 32 – 42).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of Folliot and Marchesseault because the

loader would verify all necessary classes for the JVM to execute a Java program

without causing errors (Marchesseault; col. 2 lines 35 – 45).

14.   **As to claim 17**, Folliot teaches a runtime environment, embodied in at least one

tangible computer-readable medium, suitable for use in conjunction with one virtual

machine implementation (VVM, section 1 page 176 – section 2) and a plurality of

support libraries (VMlets, section 2 pages 177 - 178), the runtime environment having a

virtual machine interface that facilitates communications between a first support library

and the virtual machine implementation, the virtual machine interface defining virtual

machine dependent operations performed by the virtual machine implementation; and

wherein:

the first support library (the first one of VMlets, section 1 page 176 paragraph 4 -

section 2).

wherein the virtual machine interface defines operations that are virtual machine

implementation dependent; and

the runtime environment is suitable for use in conjunction with a second support

library from the plurality of support libraries that has library functions with at least some

of the library functions able to call virtual machine implementation-dependent functions

that perform virtual machine implementation-dependent operations, the second support

library able to conform to the virtual machine interface (unload and load the VMlets,

section 1 page 176 paragraph 4 - section 2).

Folliot does not explicitly teach the step of the library functions call virtual

machine implementation dependent functions that perform operations that are

dependent on the particular virtual machine implementation used to perform the

operations.

Marchesseault teaches the library functions call virtual machine implementation

dependent functions that perform operations that are dependent on the particular virtual

machine implementation used to perform the operations (Java class called by an

applet… JVM load/execute the applet, and loader tells the JVM … each called class,

col. 10 lines 32 – 42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Folliot and Marchesseault because the loader would verify all necessary classes for the JVM to execute a Java program without causing errors (Marchesseault; col. 2 lines 35 – 45).

Response to Arguments

15.   Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

16.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUONG N. HOANG whose telephone number is (571)272-3763. The examiner can normally be reached on Monday - Friday 9:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng A. An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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published applications may be obtained from either Private PAIR or Public PAIR.

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Li B. Zhen/   /P. N. H./
Primary Examiner, Art Unit 2194   Examiner, Art Unit 2194